

FOLLOW THE POLLUTION

Challenge

The 1987 amendments to the Clean Water Act 1.) identified urban storm water runoff as a source of water pollution, and 2.) recognized the need to study the sources of runoff and other factors contributing to water pollution. Indiana State Rule 13 is a similar measure which applies to entities with sewer systems that discharge storm water. The challenge was to meet State and Federal compliance requirements, and develop a long-term water quality analysis plan.

Action

Utilizing Geographic Information Systems (GIS), the Monroe County Planning Department developed a Stream Assessment which gives an overview of water quality.

The first step was to determine the amount of runoff produced by different areas. Planners developed a unique process which uses zoning classifications to calculate both current and future impervious surface estimates. Those areas with more impervious surfaces, like parking lots and driveways, generate more runoff. Next came the lengthy process of reviewing and classifying parcels according to land use. Finally, benchmarks were used in calculations to provide a snapshot of long-term water quality impacts in a given area.

The completed assessment shows where runoff originates, indicates land use on each property, and determines which water bodies are affected by the runoff. This combined data provides a baseline for future comparison, and is a key component in analyzing the effects of land use on water quality over time.

Results

- Monroe County planners developed a highly-effective water quality analysis tool
- Planners can see which bodies of water are most heavily affected by pollution from storm water
- The impact of future development can be seen before it is approved
- Investigative and corrective resources can be prioritized based on quantifiable needs
- The evaluation process was designed to be easily replicated for use by all levels of government



The stream assessment shows how land use affects water quality in Monroe County; results are available to the public at www.co.monroe.in.us/planning/data.html